

REMARKS

The Office Action of October 31, 2001, has been carefully considered.

It is noted that restriction is required between the invention of claims 20-60 drawn to the plastic structural element and claims 61-64 drawn to the method for making the plastic structural elements.

Claim 1 is rejected under 35 USC 112, second paragraph.

Claims 24, 26, 32 and 39 are rejected under 35 USC 112, second paragraph.

Claim 42 is rejected under 35 USC 112, second paragraph.

Claims 20, 29, 34, 35 and 52-57 are rejected under 35 USC 102(b) over the patent to Reese, Jr.

Claims 22-28, 30-33, 36-48 and 60 are rejected under 35 USC 103(a) over Reese, Jr.

Claims 49-51 are rejected under 35 USC 103(a) over Reese, Jr. in view of the patent to Komai, et al.

Claims 58 and 59 are rejected under 35 USC 103(a) over Reese, Jr. in view of the patent to Clark.

In view of the Examiner's rejections of the claims applicants have amended claims 20, 24, 26, 32, 39 and 42, and added new independent claim 65.

Applicants affirm that claims 20-60 and 65 drawn to a plastic structural element are selected for prosecution in the present application.

It is respectfully submitted that the claims now on file particularly point out and distinctly claim the subject matter which applicants regard as the invention. The amendments to

claims 24, 26, 32, 39 and 42 are made only to address formal matters and not to overcome any prior art rejections. Applicants have amended the claims to change "E-modulus" to --elastic modulus--, "HT carbon fibers" to --high-tenacity carbon fibers--, "HM carbon" to --high-modulus carbon-- and "E-glass fibers" to --fiberglass--. Furthermore, claim 42 has been amended to clarify the formal points raised by the Examiner. All of the changes discussed above and made in the dependent claims are not intended to limit the claimed subject matter in any way but are only intended to clarify the claims to address the indefiniteness rejection.

In view of these considerations it is respectfully submitted that the rejections of claims 1, 24, 26, 32, 39 and 42 under 35 USC 112, second paragraph, are overcome and should be withdrawn.

It should be mentioned that independent claim 20 now on file specifically defines a plastic structural element comprising a plastic material, at least one insert having a length imbedded in the plastic material and extending from the plastic material, and a plastic coupling layer which is an intermediate layer made of fiber reinforced plastic. The coupling layer has a gradient effect relative to the elastic modulus and the coefficient of thermal expansion between the insert and the plastic material, which gradient is achieved by at least one of the volume fraction of fibers, the type of fiber or the alignment of the fibers in the coupling layer. Support for these features can be found on page 7, lines 9-10 and page 8, lines 1-4 of the specification.

It is respectfully submitted that the claims now on file differ essentially and in an unobvious, highly advantageous manner from the constructions disclosed in the references.

Turning now to the references, and particularly to the patent to Reese, Jr., it can be seen that this patent discloses a multi-layered, unbalanced sandwich panel. Reese, Jr. disclose a sandwich panel with a honey comb core. The invention of Reese, Jr. is far afield from the

plastic structural element recited in the presently claimed invention. Reese, Jr. does not disclose a plastic structural element having an insert which has a length embedded in the plastic material so that a portion of the insert extends from the plastic material, as in the presently claimed invention. Furthermore, Reese, Jr. does not disclose the insert being bonded to the plastic material by a plastic coupling layer as in the presently claimed invention.

In view of these considerations it is respectfully submitted that the rejection of claims 20, 29, 34-35 and 52-57 under 35 USC 102(b) and the rejection of claims 22-28, 30-33, 36-48 and 60 under 35 USC 103(a) over the above-discussed reference are overcome and should be withdrawn.

As for the remaining references which were cited in combination with Reese, Jr. in rejecting various of the dependent claims, these references have also been considered. Since they do not come close to the currently claimed subject matter than the reference discussed above it is believed that any detailed comments thereon at this time would be superfluous. It is respectfully submitted that the patent to Komai, et al. and Clark add nothing to the teachings of Reese, Jr. which would suggest the presently claimed invention. Therefore, it is respectfully submitted that the rejections of claims 49-51, 58 and 59 under 35 USC 103(a) are overcome and should be withdrawn.

Reconsideration and allowance of the present application are respectfully requested.

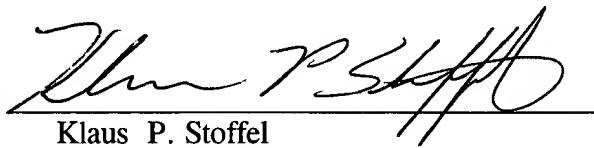
Applicants enclose herewith a Credit Card Payment Form in the amount of \$18 in payment of the additional claim.

It is believed that no fees or charges are required at this time in connection with the present application; however, if any fees or charges are required at this time, they may be charged to our Patent and Trademark Office Deposit Account No. 03-2412.

Respectfully submitted,

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